

CLAIMS

1. Method for controlling the operation of a cylinder of an internal-combustion engine, the cylinder (1) being provided with a combustion chamber (11) which can be opened or closed at the intake and opened or closed at the exhaust, and at least one fuel injector (33), in which method, during the same operating cycle of the cylinder, the following phases are carried out:

- an opening phase at the exhaust between an exhaust opening time (OE) and an exhaust closing time (FE);

- a first opening phase at the intake between a first intake opening time (OA1) after the exhaust opening time (OE) and a first intake closing time (FA1);

- a second opening phase at the intake between a second intake opening time (OA2) and a second intake closing time (FA2);

- a fuel injection phase between an injection start time (OI) and an injection end time (FI); and

- a combustion phase for the air/fuel mixture contained in the chamber (11),

characterized in that the exhaust closing time (FE) is between the first intake opening time (OA1) and the second intake opening time (OA2).

2. Method according to claim 1, characterized in that the first intake closing time (FA1) is after the exhaust closing time (FE).

3. Method according to claim 1 or 2, characterized in that the first intake closing time (FA1) precedes the second intake opening time (OA2).

4. Method according to claim 1 or 2, characterized in that the second intake opening time (OA2) precedes the first intake closing time (FA1).

5. Method according to any one of claims 1 to 4, characterized in that the first intake closing time (FA1) precedes the injection start time (OI).

6. Method according to any one of claims 1 to 4,  
5 characterized in that the injection start time (OI) precedes the first intake closing time (FA1).

7. Method according to any one of claims 1 to 6, characterized in that the injection start time (OI) is between the first intake opening time (OA1) and the exhaust  
10 closing time (FE).

8. Method according to any one of claims 1 to 6, characterized in that the exhaust closing time (FE) precedes the injection start time (OI).

9. Method according to any one of claims 1 to 8,  
15 characterized in that the amplitude of the opening at the intake is adjusted so that the amplitude of the opening during the first opening phase at the intake is different from the amplitude of the opening during the second opening phase at the intake.

20 10. Method according to any one of claims 1 to 9, characterized in that the phases are carried out during each operating cycle of the cylinder.

11. Internal-combustion engine having at least one cylinder (1) which is provided with a combustion chamber  
25 (11) which can be opened or closed at the intake and opened or closed at the exhaust, and at least one fuel injector (33), characterized in that the cylinder (1) operates in accordance with a method according to any one of claims 1 to 10.

30 12. Motor vehicle comprising an internal-combustion engine according to claim 11.